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United States
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FOREST SERVICE
SOUTHWESTERN REGION
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Record of Decision for

Cyprus Miami Leach Facility Expansion Project Miami, Arizona



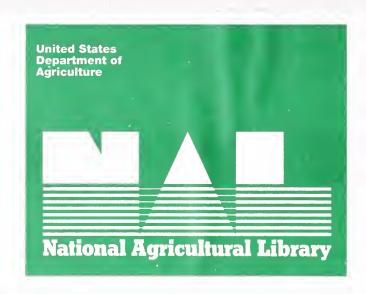


United States
Department of
Interior

BUREAU OF LAND
MANAGEMENT
ARIZONA STATE OFFICES
PHOENIX FIELD OFFICE



June 1998





RECORD OF DECISION

Cyprus Miami Leach Facility Expansion Project Miami, Arizona

BLM/AZ/PL-98/0015

Responsible (Approving) Officials:

| Hay D. | Bane | _ |
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| Denise P. Meri | • | |
| Rurgau of Lan | d Managame | ant Arizona |

June 3, 1998

Date of Decision

Charles R. Bazan, Forest Supervisor Tonto National Forest

Date of Decision



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1.1 PROJECT SUMMARY

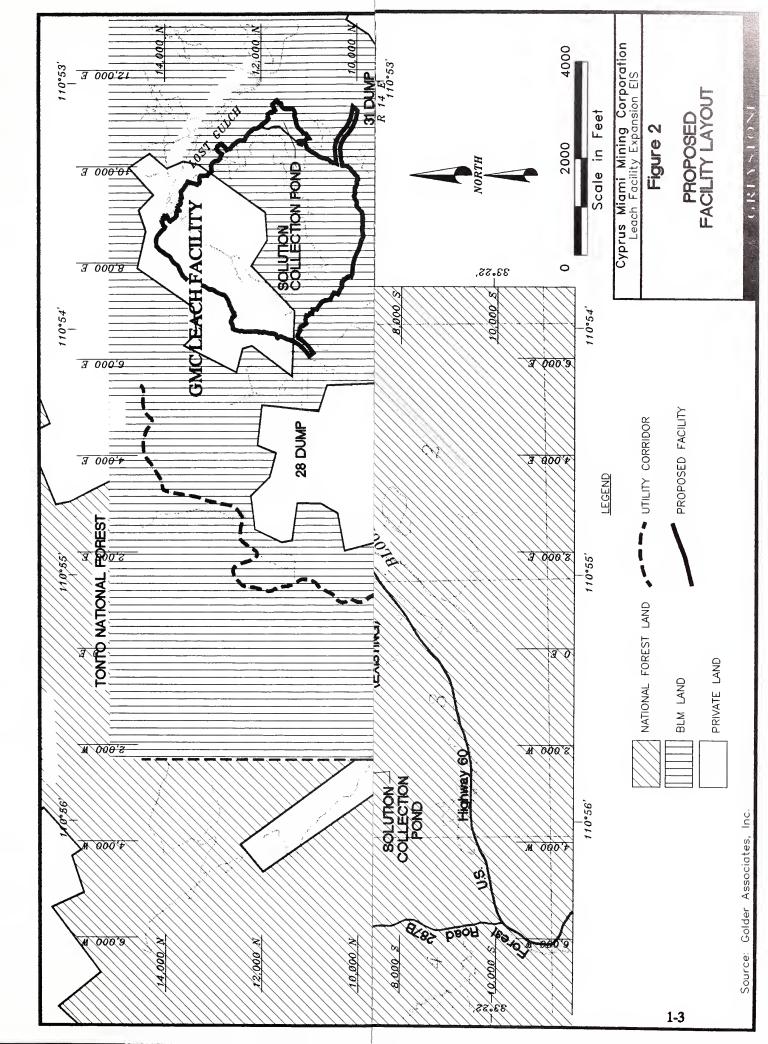
The Cyprus Miami Mining Company (Cyprus Miami) has proposed to construct, operate and reclaim the Cyprus Miami Leach Facility Expansion Project located in Miami, Arizona (Figure 1). The proposed expansion is located partly on lands administered by the Phoenix Field Office, Arizona Bureau of Land Management (BLM), the Globe Ranger District of the Tonto National Forest (Forest Service), and on private lands. Cyprus Miami submitted an operating plan to both agencies outlining the proposal for review. Based on the information provided, the agencies determined that the proposed action had the potential to result in significant environmental impacts, and therefore preparation of an environmental impact statement (EIS) was required. The BLM and Forest Service served as joint lead agencies for preparing the EIS. The U.S. Army Corps of Engineers (COE) was a cooperating agency.

The Proposed Action includes constructing three new leach facilities (referred to as the Oxhide, the BL, and the GMC facilities) and one waste rock disposal facility (Barney waste rock site) (Figure 2), together with the required ancillary facilities such as access/haul roads, solution pipelines, and surface water control structures. Approximate construction dates for these facilities are BL leach and Barney waste rock in 1997, Oxhide Leach in 1999, and GMC leach in 2004. The year 1997 has been used numerous times in the DEIS and FEIS. That year was a conceptual date for initiation of the project and all actual construction will occur later following the approval of the Plan of Operations. The leach facilities would leach copper-bearing ore mined from reserves located on lands owned by Cyprus Miami.

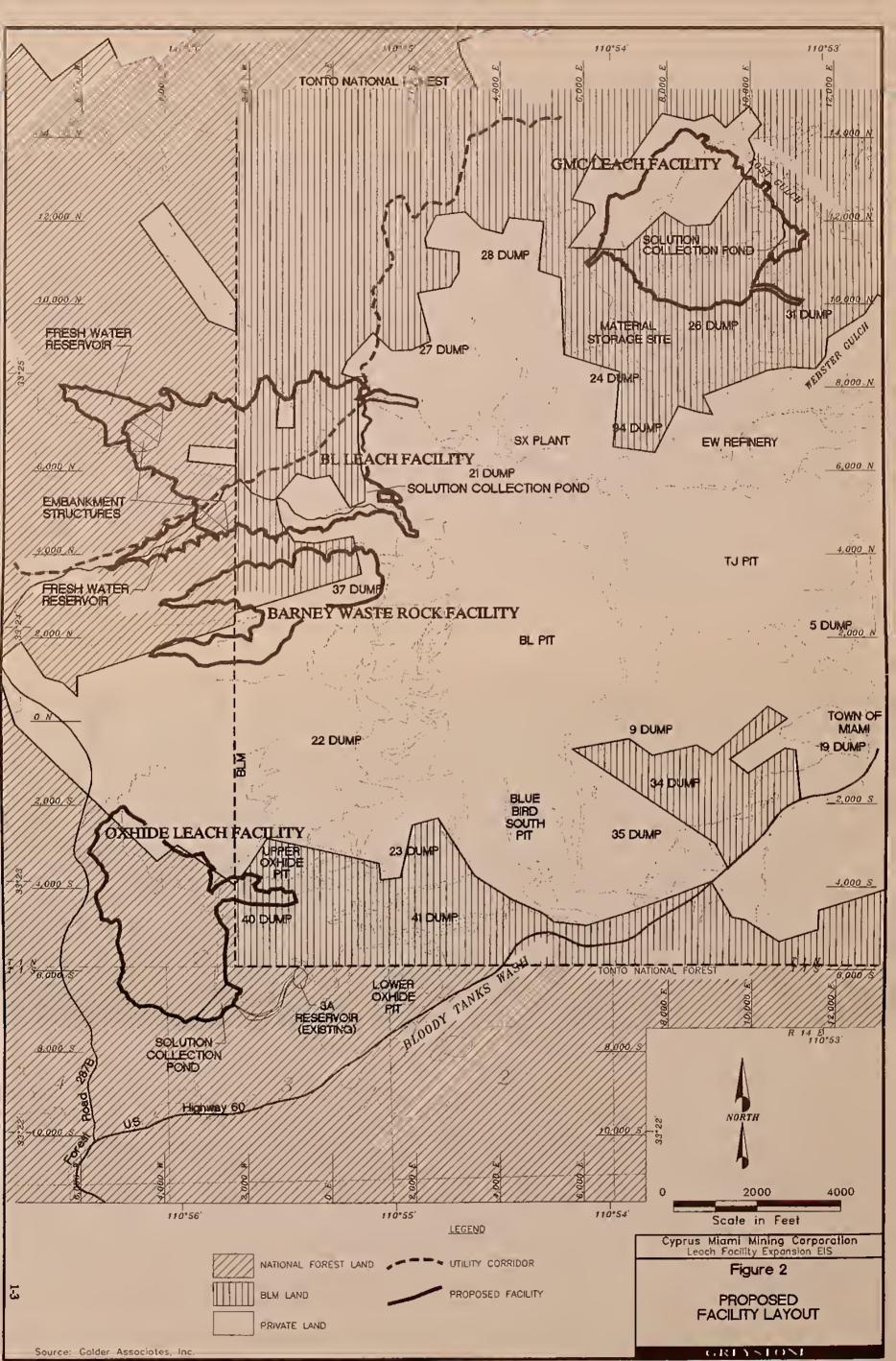
Material placed on the lined leach pads would be treated and rinsed with sulfuric acid solutions. The copper-bearing leach solution draining from these leach pads would be collected and treated in the company's existing solvent extraction and electro-winning plants to produce high quality cathode copper. The waste rock disposal site would be constructed to accommodate uneconomic or non-mineralized material removed from the active mining areas. Ore and waste rock would be hauled from existing pits. All water and utilities for the expansion facilities would be provided from existing systems. All operations would be conducted throughout the calendar year and no seasonal or other temporary shut-downs are anticipated. No new employees are expected to be hired.

Under present assumptions, the Oxhide, BL, and GMC leach facilities and Barney waste rock disposal site would operate for approximately 14 years. Development of the proposed leach facilities would enable continuous ore placement from the mine at an average annual rate of 29 million tons through 2011, which represents the final year of the current planning schedule.

Cyprus Miami is able to place and leach ore at a rate allowing production of approximately 160 million pounds of copper per year. Use of the new leach facilities would allow continued production at this rate from 1997 through 2011.









Total copper recovery from commencement of the proposed expansion facilities through closure in approximately 2021 is estimated at 2.8 billion pounds. Residual copper recovery would continue for approximately 10 years after mining ceases, and then the solvent extractions and electro-winning plants would be closed.

1.2 PURPOSE OF THE RECORD OF DECISION

This Record of Decision (ROD) documents the selection of an alternative by the Tonto National Forest Supervisor and the BLM Arizona State Director for the Cyprus Miami Leach Facility Expansion Project Final Environmental Impact Statement (EIS). This ROD only reflects decisions made under the authorities of the BLM Arizona State Director and the Forest Supervisor of the Tonto National Forest. The authority for approving certain aspects of this project lies not only with the BLM and Forest Service, but also with other federal, state, and local agencies. Other authorizing agencies (see Section 5.0) shall issue their approval documents separately, and it will be the responsibility of Cyprus Miami to obtain these approvals in the timeframes specified by those agencies.

This document states the decision, identifies the alternatives that were considered, states which alternative was environmentally preferable and identifies the reasons considered in selecting the alternative.



2.1 DECISION

BLM

It is the decision of the Arizona State Director (BLM) to approve the Cyprus Miami Leach Facility Expansion Project Mine Plan of Operations as described in Alternative A - Modified Development Sequence (Agency Preferred Alternative). The Mine Plan of Operations includes all minor modifications and mitigation measures evaluated and adopted through the date of issuance of the ROD. The Mine Plan of Operations incorporating the mitigation measures in this decision will also provide a list of the mining claims within this expansion plan area and existing Mining Plans of Operations. This approval does not imply or otherwise serve as recognition of the validity of any mining claim or mill site to which it may apply.

Forest Service

It is the Forest Service decision to authorize Alternative A - Modified Development Sequence (Agency Preferred Alternative) when all requirements for the approval of the Plan of Operations for the Cyprus Miami Leach Facility Expansion Project have been met. The Plan of Operations will include all minor modifications and mitigation measures evaluated and adopted through the date of issuance of the ROD.

2.2 DECISION COMPONENTS

When the project is implemented it will result in the activities as outlined in Sections 2.4 and 2.5 of the Draft EIS. These activities are summarized below:

- The first activity will be preparation of the area for the BL leach facility. Clearing and earth-moving will commence for the construction of the foundation. The first phases of the embankments in Webster Gulch and Little Pinto Canyon will be constructed. The leach collection and recovery system (LCRS) will be constructed and that system will be connected by new pipelines to the existing leach solution transfer system. Existing haul roads will be extended to the site. The existing utility corridor will be relocated around the perimeter of the BL site.
- The Barney waste rock disposal area will be constructed to receive waste rock concurrently with construction of the BL leach facility, and existing haul roads will be extended to the Barney site.
- In the 1999-2000 time frame, the GMC leach facility will be constructed. New pipelines for leach solution transfer and new haul roads will be connected to the existing facilities.
- In the 2004-2005 time frame, the Oxhide leach facility will be constructed. New pipelines for leach solution transfer and new haul roads will be connected to the existing facilities.

2.3 MITIGATION AND MONITORING

NEPA regulations identify five means of mitigating environmental impacts (40 CFR 1508.20). These means include avoidance, minimization, rehabilitation/restoration, reduction of impact over time, and compensation by replacement or substitution. The FEIS describes how mitigation will be applied and how monitoring will be continued through the life of the project. Most of the mitigation is predicated on avoidance and minimization. Mitigation measures are either designed into construction plans or applied as soon as possible in the life of the project.

Monitoring is important because it alerts the project operators (and the regulatory agencies) that a threat to a resource may be developing. Effective monitoring thus provides time to address the threat and formulate the best response.

The Cyprus Miami expansion will be adjacent to, and directly connected with, an ongoing operation which has performed well in its protection of the environment. The level of monitoring and mitigation requirements in the Final EIS are considered appropriate and sufficient to prevent undue degradation and minimize adverse impacts to the environment.

All practicable means to avoid or minimize environmental harm were incorporated into the proposed operating plan as revised and filed. Additionally, for specific programs mitigation and monitoring requirements were developed in the EIS and are outlined below:

2.3.1 Air Resources

Current ambient air quality monitoring activities are stipulated by the existing Arizona Department of Environmental Quality (ADEQ) Air Installation Permit (AIP). Future ambient air quality monitoring will be controlled through future AIP renewals throughout the life of the project.

Cyprus Miami will comply with fugitive dust mitigation measures stipulated in Arizona Administrative Code (AAC) R18-2-606, AAC R18-2-610, AAC R18-2-607, and AAC R18-2-604.

In addition to the above measures, Cyprus Miami will maintain appropriate speed limits of vehicular traffic in order to control fugitive dust as well as mitigation measures on unpaved roads which result in 70 percent control of fugitive dust emissions corresponding to 160 million pounds per year of electrowon cathode copper. If the 160 million pound per year production threshold is exceeded, an increased level of mitigation will be required. The increased rate of control will be stipulated in the operating plan.

These fugitive dust mitigation measures will be voluntarily incorporated into the AIP by Cyprus Miami and will be enforceable requirements. The ADEQ is responsible for enforcement of AIP required monitoring activities, mitigation measures (voluntary and required) and for assuring that applicable air quality standards are maintained. Cyprus Miami will obtain the necessary AIP Modification and maintain the appropriate AIP throughout the life of the project.

In order to better ascertain air quality of the Eastern portion of the Superstition Wilderness, Cyprus Miami has committed to involvement in a joint monitoring of air quality of the Class I Area.

2.3.2 Geology and Minerals

- Backfilling of old underground workings within the footprint of the leach facilities in accordance with section 4.2.2.1 of the Draft EIS.
- Providing drainage for springs and seeps within the footprint of the leach facilities in accordance with section 4.2.2.1 of the Draft EIS.
- Development of final designs for the leach pads and impoundment embankments that demonstrate stability during operational and post-closure periods under static and pseudostatic conditions.
- Monitoring of geotechnical aspects during construction and operation through implementation of the QA/QC plan.
- At closure, final as-built surveys would be made of all dumps and pads not constructed to their previously approved configurations.

2.3.3 Water Resources

- A Quality Assurance/Quality Control (QA/QC) plan has been developed for installation of the geomembrane lining systems at the leaching facilities. Implementation of the QA/QC plan will be documented to ensure a high standard of installation for the geomembrane liners. The primary goal of the QA/QC plan is to minimize the number and size of breaches in the geomembrane liners.
- Groundwater monitoring will be implemented in accordance with the State of Arizona Aquifer Protection Permit (APP) for the facilities. Groundwater quality monitoring will use selected wells from the existing groundwater monitoring network. Details concerning the number and location of such wells have yet to be finalized. The final monitoring plan will be submitted to the agencies for approval. The primary goal of such monitoring is to detect any groundwater contamination so that corrective measures can be taken before polluted groundwater leaves the project area.
- The facility drainage systems, evaporation/sediment ponds and surface diversions will be inspected periodically to ensure that: a) they are functioning properly, and b) no surface discharges from these facilities are occurring to Waters of the United States. Maintenance on the facilities will be performed as necessary.
- A QA/QC plan will be developed to ensure implementation of the Waste Rock Handling Plan.

- Cyprus Miami will investigate closure technologies for copper oxide heap leach facilities
 throughout the life of the project. Cyprus Miami will submit a report concerning that
 research to the Forest Service and the BLM once every two years. Cyprus Miami will
 submit their recommended closure of the leach facilities to the Forest Service and the BLM
 two years prior to actual closure.
- Mitigation for the loss in quantity and availability of surface waters for livestock and wildlife
 uses will consist of construction of the Webster Gulch and Little Pinto Canyon
 impoundments; these two impoundments will be located up-gradient of the BL Leach
 Facility. These new impoundments, along with existing diversions and ponds that will
 remain after closure, will mitigate the loss of the springs, seeps, and ponds currently used
 by livestock and wildlife.
- There is no mitigation for the loss or amendment of surface water rights. However, the water rights claimants will need to notify ADWR that the water sources will be lost or changed due to the mining operation. Water rights (and accompanying Salt River adjudication claims) lost by the Proposed Action will have to be withdrawn; "changed" rights will have to go through the sever and transfer process or simply be amended to change the point of diversion, place of use or type of use on National Forest System lands. Water rights on BLM lands may be transferred as part of a future land exchange or could be "unavoidably lost".
- Mitigation for open water and riparian areas will be accomplished as described above. The effectiveness of the mitigation measures is predicted from hydrologic models using annual rainfall, runoff, and evaporation values. To document the effectiveness, as soon as the impoundment is constructed, Cyprus Miami will initiate real time monitoring of actual water levels in the impoundment. If actual water levels are similar to predicted levels, the mitigation will be considered successful. In the absence of predicted water levels, Cyprus Miami will develop plans, in consultation with the agencies, to promote riparian area enhancement in other locations.
- Surface water quality monitoring will occur for the life of the project and during closure. The details concerning surface water quality monitoring have not been finalized. The monitoring plan must be approved by the Forest Service and the BLM in coordination with ADEQ. The primary goal of such monitoring is to detect surface water contamination that may occur from the three heap leach facilities so that corrective measures can be taken.
- Periodic inspections of the diversion structures will be required for a number of years after closure. The frequency of inspections and the duration of the monitoring program will be determined by the Forest Service and the BLM during project permitting and construction. The diversion structures may need to be reconfigured at closure so as to minimize the need for ongoing maintenance.

2.3.4 Soils and Reclamation

• Implementation of the Final Reclamation and Closure Plan submitted by Cyprus Miami. The Plan describes soil/growth medium salvage, grading and recontouring, revegetation and other potential soil stabilization methods (including test plots for species list development), drainage control, and specific reclamation procedures for the various facilities, and management of reclaimed areas. The Plan will achieve the desired post-mining land use objectives as defined in the agencies' land management plans.

Soil mapping and characterization was conducted as described in section 3.4 of the Draft EIS, and **Table 3-13** presented soil salvage depths and limitations. An estimate of the soil salvage availability was provided in **Table 3-14** of the Draft EIS. Analysis indicates sufficient soil/growth medium is available to accomplish the proposed soil respreading.

2.3.5 Biological Resources

- Compliance with the Habitat Mitigation and Monitoring Plan developed in cooperation with the COE (FEIS, Appendix A).
- Continued monitoring according to existing programs with extension of the monitoring to the new solution containment and transfer systems
- Conducting a transplant project to preserve the native longfin dace population. At the time for transplanting (around 2004), all viable options for transplanting locations will be evaluated.

2.3.6 Cultural Resources

Archaeological and ethnohistorical inventories were completed in consultation with the Arizona State Historic Preservation Office (SHPO). Tribal comments and concerns were identified and a data recovery/treatment/monitoring program has been approved as documented in an executed Memorandum of Agreement under the National Historic Preservation Act. Data recovery and all other treatments must be completed prior to conducting any surface disturbing activities.

2.3.7 Land Use/Recreation

- Relocation of Forest Service maintained allotment boundary fences around new facilities to maintain allotment separation prior to surface disturbance.
- Planned reclamation and construction of impoundments will provide water sources, diverse terrain, and revegetated oak chaparral/woodland/desert scrub plant associations to return portions of the disturbed areas to grazing, wildlife habitat, and dispersed recreation uses.
- Regulation of public land access to protect the public from hazards associated with the mining project. Review by the agencies of all road closure requests by the company in order to minimize unreasonable disruptions to public access

2.3.8 Visual Resources

- Implementation of the Reclamation and Closure Plan will reduce color and texture contrasts, and lessen the impact of landform modifications.
- Final contouring of selected features to blend, when possible, with the surrounding landscape.

2.3.9 Hazardous Materials

- Conducting a Materials Characterization Program to determine chemical constituency of all
 materials handled as part of the project, and implementing special controls or handling as
 required.
- Modifying existing National Pollutant Discharge Elimination System (NPDES) Permit and Spill Prevention Control and Countermeasures Plan (SPCC) to include new facilities and extend existing monitoring and reporting requirements.
- Installing pressure monitors in pipelines to detect sudden pressure drops and sound an alarm in the control room at the SX plant.
- Implementation of best available demonstrated control technologies (BADCT) to minimize the potential for seepage from the heap leach facilities.

2.3.10 Monitoring of the Operating Plan

BLM and Forest Service personnel will monitor the Cyprus Miami expansion project for compliance with the plan of operations as required under regulations in 43 CFR 3809 and 36 CFR 228, as directed by BLM Manual 3809-Surface Management, and the Forest Service Manual (Chapter 2810), and as described in the FEIS. BLM and Forest Service personnel will be responsible for all inspection and enforcement procedures under 43 CFR 3809 and 36 CFR 228.

2.4 DECISION RATIONALE

2.4.1 Management Considerations

Federal laws such as the General Mining Law of 1872 (as amended), the Mining and Mineral Policy Act of 1970, and the Federal Land Policy and Management Act of 1976 support national policy to foster and encourage the discovery and development of domestic mineral resources. These laws and the regulations formulated to implement them strongly favor the development of projects such as the Cyprus Miami project.

The situation is best stated in Title 43 of the Code of Federal Regulations, part 3809.0-6. "Under the mining laws a person has a statutory right, consistent with Departmental regulations,

to go upon the open (unappropriated and unreserved) Federal lands for the purpose of mineral prospecting, exploration, development, extraction and other uses reasonably incident thereto. This statutory right carries with it the responsibility to assure that operations include adequate and responsible measures to prevent unnecessary or undue degradation of the Federal lands and to provide for reasonable reclamation." The proposed action presented in the EIS complies with these laws and regulations. On National Forest System Lands, mineral development must be conducted in a manner that minimizes adverse environmental impacts (36 CFR 228.8).

The authority for approving certain aspects of this project lies not only with the BLM and Forest Service, but also with other federal, state, and local agencies. Other authorizing agencies shall issue their approval documents separately, and it will the responsibility of Cyprus Miami to obtain these approvals in the timeframes specified by these agencies. This ROD only reflects decisions made under the authorities of the BLM Arizona State Director and the Forest Supervisor of the Tonto National Forest.

The key focus of agency efforts throughout the planning process has been to minimize potential impacts to resources. The agencies' selected alternative will provide a higher level of environmental protection than the proposed action.

2.4.2 Environmental Issues

The Draft EIS examined a number of environmental issues, both as required by law, and as identified through the scoping process. Detailed studies of the potential impacts of the alternatives were performed. Key impacts from Alternative A - Modified Development Sequence (Agency Preferred Alternative) are summarized below. Impacts for Alternative A at the Oxhide site would be delayed by approximately seven years or more from the date of project implementation as compared to those identified for the Proposed Action Alternative.

2.4.2.1 Air Quality

Under Alternative A, particulate matter (PM₁₀) will decrease by 128 tons per year (tpy), as compared to the No Action Alternative. Nitrogen oxides (NO_x) will decrease by 96 tpy and sulfur dioxide (SO₂) will decrease by 8 tpy from the No Action Alternative baseline. Alternative A will extend the generation of emissions by 10 years as compared to the No Action Alternative, from 2011 to 2021. The emission reductions of Alternative A, when compared against the baseline emissions of the No Action Alternative, occur primarily through the reduction of haul road distances required to be traveled.

2.4.2.2 Geology/Mineral Resources

Copper recovery will occur from 487 million tons of copper ore.

2.4.2.3 Water Resources

Depth to groundwater may increase adjacent to the existing BL pit. Surface water will be diverted around facilities. Eighteen water sources (stockponds and small ephemeral springs) will

be covered by the new facilities. Possible exceedance of aquifer water quality standards may occur over a short distance downgradient of leach facilities. Amendment to, or loss of, some water rights associated with the lost water sources will occur. Some jurisdictional Waters of the U.S. (9.22 acres) will be lost, but mitigation will be provided. Cyprus Miami has applied for a CWA Section 404 Permit from the COE, and a Habitat Mitigation and Monitoring Plan (HMMP) is an integral part of the application.

2.4.2.4 Biological Resources

No federally-listed threatened or endangered species will be affected. A population of native longfin dace will be impacted (but partially mitigated through transplanting). Some individual leopard frogs will be lost. Seven acres of riparian vegetation will be lost, and 0.06 acres of wetlands lost.

2.4.2.5 Socioeconomics

\$1.1 billion generated in Gila County through combined direct and indirect economic benefits (salaries, purchases of goods and services, taxes, secondary benefits, and others) over the 17-year life of the project (see **Table 4-13** in the Draft EIS). Current level of employment will be maintained until 2008, then will decrease in proportion to decreasing production levels through the life of the project.

2.4.2.6 Cultural Resources

Thirty-two cultural resource sites, 25 of which have been determined to be eligible for the National Register of Historic Places, will be disturbed, but mitigation will be conducted. As additional sites may be identified as a result of continuing consultations with the tribes, and as other sites may be added by discovery during construction, all such properties will be treated in accordance with the approved data recovery/treatment plan.

3.0 ALTERNATIVES INCLUDING THE PROPOSED ACTION

Three alternatives were considered and fully analyzed in the EIS (Figure 3, Table 1):

3.1 PROPOSED ACTION

This alternative is based on the Cyprus Miami Mining Corporation operating plan as described in the Final EIS. This alternative would construct the proposed facilities in the following order: BL leach facility and Barney waste rock facility in 1997, Oxhide leach facility in 1999, and GMC leach facility in 2004. Ore and waste rock to be placed on these facilities would come from existing pits. Leachate solution from the new facilities would be connected to the existing Leachate Collection and Recovery System.

3.2 ALTERNATIVE A - MODIFIED DEVELOPMENT SEQUENCE ALTERNATIVE (AGENCIES' PREFERRED ALTERNATIVE)

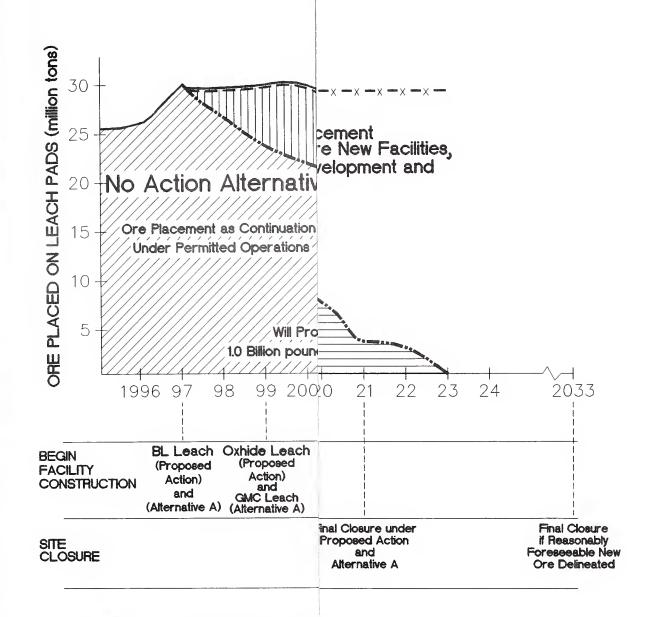
Alternative A is identical to the Proposed Action with one important difference: the order of construction of the Oxhide and GMC leach facilities is reversed. In this alternative, the Oxhide leach facility would be constructed last, in 2004. Alternative A was developed by the joint agency Interdisciplinary Team in order to delay or avoid disturbance of environmental resources at the proposed Oxhide leach site. Of the four sites that make up the Proposed Action, the Oxhide site represents the greatest potential risk to natural resources. Resources within the facility site include a pond containing longfin dace and two reaches of willow riparian habitat. Adjacent resources include Bloody Tanks Wash and domestic groundwater wells.

Rationale for developing this alternative was twofold. First, delaying implementation of the Oxhide facility may allow for incorporation of any improved solution control technologies that may be developed in the near future, which could provide improved mitigation of impacts to resources at Oxhide. Second, alternative sites for leaching facilities may be recognized as the corrective action plan (CAP) is developed for the nearby Webster Lake drainage area, located partially on lands owned by Cyprus Miami. The former Webster Lake area and CAP are described in Section 1.1 of the Final EIS. This could potentially allow for a future modification to the operating plan that could eliminate the Oxhide site altogether.

3.3 NO ACTION ALTERNATIVE

This alternative describes impacts to the Cyprus Miami existing mining operation and to the environment if the BLM and FS do not approve the proposed Plan of Operations or Alternative A. Ore placement on the existing leach facilities would continue until approximately 1998, when active mining would cease. Leaching and copper recovery would continue for approximately 10 years, when closure of the recovery facilities would begin.





*Note: After ore placement ceases, The of residual copper recovery thro leaching solution until no longer closure would ocuur after residu (approximately 10 years). Also

Cyprus Miami Mining Corporation Leach Facility Expansion EIS

Figure 3

COMPARISON OF ALTERNATIVES FOR

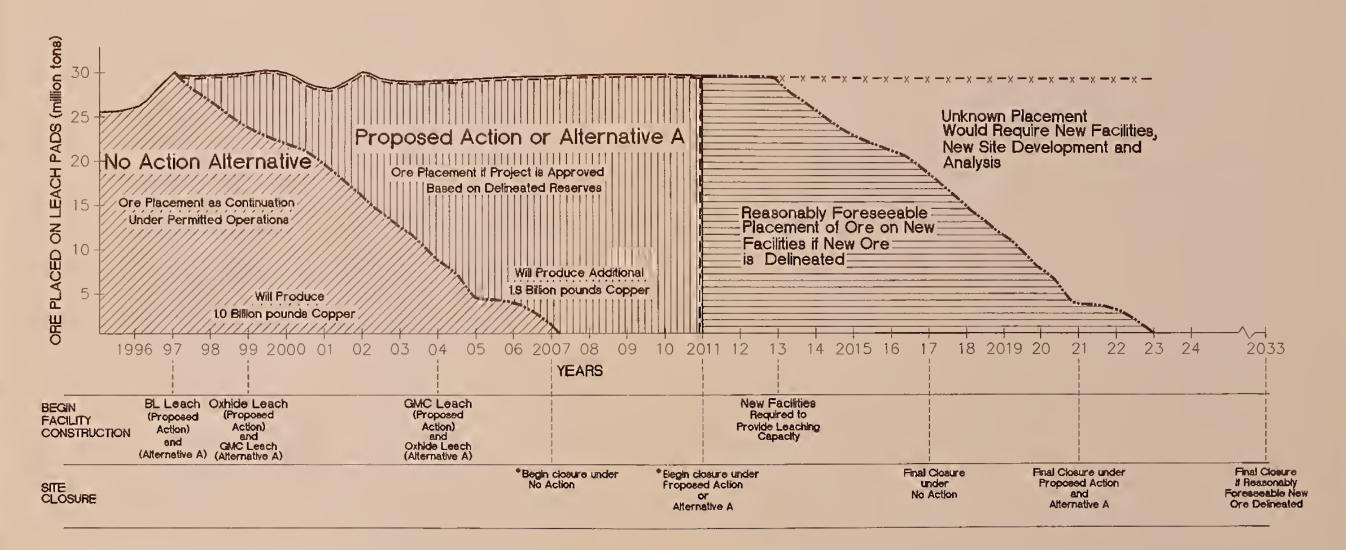
- ORE PLACEMENT
- CONSTRUCTION OF FACILITIES

GREASION

MINE CLOSURE

3-2 Corporation





•Note: After are placement ceases, There would be a period of residual copper recovery through recirculation of leaching solution until no longer economical. Final site closure would ocuur after residual copper recovery (approximately 10 years). Also see Table 2-3

> Cyprus Miomi Mining Corporation Leach Facility Exponsion EIS

> > Figure 3

COMPARISON OF ALTERNATIVES FOR

- ORE PLACEMENT
- CONSTRUCTION OF FACILITIES
- MINE CLOSURE

 Table 1
 Summary Comparison of Impacts By Alternative

| Environmental Resource | Indicator* | No Action Alternative | Proposed Action | Alternative A - Modified Development Sequence (Agency Preferred) |
|---------------------------|--|---|---|--|
| Air Resources | Particulate Matter (PM ₁₀) (p. 4-4, 4-16, 4-68) | 3,778 tpy, starting to decrease in 1997. | 675 tpy more than No Action | 128 tpy less than No Action, source at Oxhide delayed 7 years. |
| | Sulfur and Nitrogen Oxides (SO ₂ -NO _x) (p. 4-5, 4-16, 4-70) | 3660 tpy, starting to decrease in 1997. | 972 tpy SO ₂ - NO _x more than No Action | 104 tpy SO ₂ -NO _x less than No Action |
| | Acid Mist (p. 4-17, 4-72) | Negligible | Negligible | Same as proposed |
| | Hazardous Air Pollutants (p. 4-6, 4-16, 4-70) | 3.3 tpy | 3.35 tpy | Same as proposed |
| | Conformity Analysis Requirement (p. 4- 17, 4-72) | Not applicable as already permitted | Full analysis would be needed if selected | Analysis not needed as emissions below de minimus threshold |
| Geology and Minerals | Slope Stabilities (p. 4-19, 4-20) | Sufficient safety factors | Sufficient safety factors | Same as proposed |
| | Mineral (Copper) Production (p. 2-5, 2-8, 4-7, 4-21) | 55 million lbs/yr 1.0 billion lbs recovered total | 160 million lbs/yr 2.8 billion lbs recovered total | Same as proposed |
| Groundwater | Quantity (p. 4-8, 4-22, 4-77) | No change | Depth to groundwater may increase adjacent to the BL pit. No other significant impacts. | Same as proposed |
| | Quality (p. 3-30, 4-8, 4-23, 4-77) | Possible on site exceedances of Arizona and EPA standards/guidelines for SO ₂ , TDS, Al, Fe, Mn, Cl, Cd, Cr, Ph, U, and radionuclides. | Modeling indicated possible exceedence of aquifer water quality standards (AWQS) for a short distance downgradient of leach facilities. No other significant impacts. | Same as proposed; no change at Oxhide site for 7 years. |
| Surface Water | Quantity (p. 4-8, 4-28, 4-77) | No change from current conditions. | Current drainage patterns altered. 18 water sources would be covered by the proposed facilities. No other impacts. Surface water contained on-site. | Same as proposed, no change at Oxhide site for 7 years. |
| | Quality (p. 4-8, 4-29, 4-77) | No change from current conditions. | Minimal impacts. Surface water contained on-site. | Same as proposed. |
| | Water rights (p. 4-31) | No change from current conditions. | Amendment or loss of water rights associated with water sources covered by the proposed facilities. | Same as proposed |

 Table 1
 Summary Comparison of Impacts By Alternative

| Environmental Resource | Indicator* | No Action Alternative | Proposed Action | Alternative A - Modified Development Sequence (Agency Preferred) |
|---------------------------|---|--|--|--|
| | Waters of the United States (p. 4-33) | No change from current conditions. | Impact to 9.22 acres of open water, drainages, and wetlands. | Same as proposed; a pond, wetland, and drainage at Oxhide not disturbed for 7 years. |
| | Springs, Seeps and Ponds (4-28 & 4- 30) | No change from current conditions. | 11 ponds, tanks, or artesian boreholes lost, 7 springs or seeps covered and water rerouted | Same as proposed, 3 ponds and 1 seep at Oxhide not disturbed for 7 years. |
| Soils and Reclamation | Acres disturbed (p. 4-8 & 4-35) | 151 | 1,057 | Same as proposed |
| | Salvageable topsoil (p. 3-51) | Unknown | 512,844 cubic yards, maximum available | Same as proposed |
| | Estimate of reclamation success (p. 4-8, 4-35) | Reclamation according to current Operating Plan | Revegetation of 272 acres. Natural stabilization on about 785 acres. | Same as proposed |
| | Soil Loss (p. 4-36) | Average 6.9 tons/acre/year Totals 1,042 tons/year. | Average 5.0 tons/acre/year Totals 5,285 tons/year. | Same as proposed |
| Vegetation | Acres lost (p. 4-8, 4-38, 4-78) | 151 | 1,057 | Same as proposed |
| | Riparian areas lost (p. 4-39, 4-81, 4-84) | No new disturbance | 7 acres of Riparian vegetation lost 0.06 acres of Wetlands lost | Same as proposed, loss of wetland at Oxhide delayed 7 years. |
| | Federally-listed T&E Species (4-8, 4-40) | No new disturbance | None affected | Same as proposed |
| Wildlife | Populations displaced (p. 4-9, 4-41) | No new disturbance | No habitats designated sensitive or critical | Same as proposed |
| | BLM or FS Sensitive species affected (p. 4-9, 4- 43, 4-78) | No new disturbance | From 0 to 14 percent of available habitat affected. No federally-listed T & E species affected. Dace population impacted. Some leopard frogs lost. | Same as proposed, Dace population not affected for 7 years. |
| | Federally-listed T&E species: (p. 4-44) | No new disturbance | None affected. | Same as proposed |
| Cultural Resources | Sites affected (p. 4-9,4-48) | Potential effect to resources on private land. | 32, mitigated by treatment plan. | Same as proposed |
| Socioeconomics | Population (p. 4-10 & 4-53) | Less than one percent decrease. | No change from current. | Same as proposed. |

Table 1 Summary Comparison of Impacts By Alternative

| Environmental Resource | Indicator* | No Action Alternative | Proposed Action | Alternative A - Modified Development Sequence (Agency Preferred) |
|---------------------------|--|---|--|--|
| | Changes in Employment ¹ (p. 4-10 & 4-53) | 425 total positions (309 mine & leach; 116 SX-EW). Workforce reduction of 30 people per year. Workforce in 2007=42. | 425 total positions. Workforce reductions begin in 2008. Workforce in 2011=85. | Same as Proposed Action |
| | Environmental Justice (p. 4-10 & 4-53) | Hispanic population disproportionately affected by workforce reduction. | No change from current. | Same as proposed. |
| | Combined Direct and Indirect Economic Benefits (p. 3-87, 4-54, 4-55) | \$577.1 million to Gila County. | \$1.1 billion to Gila County. | Same as proposed. |
| | Demand for Public Services (p. 4-12 & 4-56) | Slight reduction. | No change from current. | Same as proposed. |
| Land Use | Compliance with plans and permits (p. 4-13 & 4-58) | In compliance | In compliance | Same as proposed |
| | Public road closures (p. 4-14, 4-61, 4-82) | No effect | Forest Road 608 closed | Same as proposed |
| Visual Resources | Comply with VQO (p. 4-14, 4-64, 4-79, 4-82) | In compliance | Does not meet assigned VQOs. | Same as proposed. Oxhide visibility from Hwy. 60 delayed 7 years |
| | Views from KOP (p. 4-65) | No effect | Not significant | Same as proposed |
| Hazardous Materials | Spill and Exposure Potential (p. 4-15 & 4-66) | No change | Minor increase | Same as proposed |

Workforce reduction estimates are based on the 17 year mine plan submitted by Cyprus Miami, which is based on currently delineated reserves. If new ore reserves are delineated, the start of workforce reductions would be delayed by an unknown number of years based on the amount of new ore reserves (see FEIS Figure 1-1 for visual depiction of possible new ore delineation). Page numbers refer to pages in the DEIS.

3.4 ALTERNATIVES CONSIDERED, BUT ELIMINATED FROM FURTHER STUDY

The following alternatives were initially considered for analysis in the EIS but were subsequently eliminated because they were not either technically, environmentally, or economically feasible, or had permitting constraints.

- 1) Replace Barney Waste Rock Disposal Site with a Needles Waste Rock Site.
- 2 & 3) Construct a Leach Facility in the Needles 1 and 2 Area.
- 4) Construct a Leach Facility in the Barney Extension Area.
- 5) Construct a Leach Facility on An Existing Waste Rock Disposal Site.
- 6) Construct a Leach Facility at Historic Webster Lake Sites.
- 7 & 8) Construct a Leach Facility in the Myberg 1 and 2 Area.
- 9) Construct a Leach Facility in the Lost Day Area.
- 10) Construct a Leach Facility(s) at a Remote Site(s).
- 11) Construct a Leach Facility at the Barney Waste Rock Site.
- 12) Construct Three Smaller Leach Facilities.
- 13) Construct Only Two Leach Facilities

4.0 ENVIRONMENTALLY PREFERABLE ALTERNATIVE

Council on Environmental Quality (CEQ) regulations in 40 CFR 1505.2(b) require an agency to specify the alternative that was considered to be environmentally preferable in the process of reaching its decision. An environmental preferable alternative is one that causes the least damage to the physical and biological environment and that best protects, preserves, and enhances historic, cultural, and natural resources. The No Action alternative best meets this definition since no additional disturbance would take place. The No Action alternative was not selected because it would not meet the purpose of and need for the project in response to the proponent's proposal. Additionally, the No Action alternative would not meet the requirements of the General Mining Law of 1872, as amended, because legally feasible alternatives that include reasonable mitigation to protect resources are available.

The alternative selected by the BLM and Forest Service is the more environmentally preferable of the action alternatives for most resources.



5.0 FINDINGS REQUIRED BY OTHER LAWS AND REGULATIONS

The FEIS complies with or is consistent with all applicable laws including, but not limited to, the following:

5.1 GENERAL MINING LAW OF 1872, AS AMENDED.

See section 1.3.1 Authorities in the Draft EIS.

5.1.1 Surface Occupancy Determination.

Through the EIS, BLM has determined that for BLM administered lands the approved operating plan is in concurrence with the use and surface occupancy regulations per 43 CFR 3715. Identified mining claims and millsites will be appropriately utilized for mining and processing operations and for other reasonably incident uses.

5.2 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

See Section 1.2 Purpose and Need in the Draft EIS.

5.3 CLEAN AIR ACT

See Sections 4.1.1, 4.2.1, and 4.3.1 Air Resources in the Draft EIS.

Conformity - PM₁₀. The proposed project is located in the northern part of the EPA-designated Hayden/Miami, Arizona, non-attainment area for the annual and 24-hour National Ambient Air Quality Standard (NAAQS) for particulate matter less than 10 microns in aerodynamic diameter (PM₁₀). The federally-required State Implementation Plan (SIP) for the Hayden/Miami area has been developed by ADEQ but has not yet been approved by the EPA. Based on the "net emissions" approach, stipulated in 58 FR No. 228, page 63243, the No Action Alternative is the baseline against which the Preferred Alternative emissions were compared. The Forest Service and BLM have determined that the total PM₁₀ emissions of the Preferred Alternative results in a decrease from the No Action baseline (128 tpy PM_{10} reduction). This is well below the de minimis emissions threshold of an allowed 100 tpy (40 CFR Part 93) increase in emissions that would result in a required conformity determination. Therefore, based on the Preferred Alternative emissions, a conformity determination is not required for PM₁₀. This conclusion of no required conformity determination is predicated on the inclusion of an enforceable voluntary permit condition to be established within the ADEQ AIP requiring the following levels of dust mitigation on haul roads corresponding to electrowon copper production levels:

| Production (million lbs. copper/year) | Required Dust Control Efficiency (percent) |
|---------------------------------------|--|
| < 170 | 70 |
| 180 | 72 |
| 190 | 73 |
| 200 | 74 |
| 210 | 76 |

If the tankhouse production were to exceed the 210 million lbs. per year level, then a ADEQ AIP modification would be required. A new emission inventory for evaluation by the Forest Service and BLM would also be required to determine that the project was operating under the conditions and assumptions of the FEIS and would therefore remain in conformity with the SIP for the Hayden/Miami non-attainment area.

Conformity - SO₂. The project area falls within an area that has been classified as a Priority 1A Region for SO₂. The ADEQ is in the process of developing the SO₂ SIP for the Globe/Miami SO₂ non-attainment area. Based on the "net emissions" approach, stipulated in 58 FR No. 228, Page 63243, the No Action Alternative is the baseline against which the Preferred Alternative emissions were compared. The Forest Service and BLM have determined that the total SO₂ emissions of the Preferred Alternative results in a decrease from the No Action baseline (8 tpy SO₂ reduction). This is well below the *de minimis* emissions threshold of an allowed 100 tpy (40 CFR Part 93) increase in emissions that would result in a required conformity determination. Therefore, based on the Preferred Alternative emissions, a conformity determination is not required for SO₂.

Impacts to Class I Superstition Wilderness Area. Although the project results in net decreases of overall emissions for the Preferred Alternative, the proximity of the emissions sources was changed from the baseline No Action Alternative. As a result, a Level 2 Visibility Analysis was conducted which indicated that visibility impacts from the Preferred Alternative should be below perceptible levels and within the Tonto National Forest Limits of Acceptable Change for this Air Quality Related Value (AQRV). Other AQRV were not analyzed based on the net reduction of emissions from the existing operations.

5.4 CLEAN WATER ACT

See Sections 4.2.3 and 4.2.4 Groundwater Resources and Surface Water Resources in the Draft EIS.

The project will have to comply with the National Pollutant Discharge Elimination System (NPDES) for stormwater and point-source discharges, with Section 404 of the Clean Water Act for impacts to Waters of the U.S., with Section 401 of the Act for Water Quality Certification/Review by the State of Arizona, and with the Arizona Department of Environmental Quality requirements for an Aquifer Protection Permit (APP). Each of the above programs has its own permitting requirements. It will be the responsibility of Cyprus Miami to meet these permitting regulations, and to obtain approvals in the time frame specified by the permitting agencies.

5.5 ENDANGERED SPECIES ACT

See Sections 4.2.6.1.3 and 4.2.6.2.3 Threatened and Endangered Species of plants and wildlife, respectively, in the Draft EIS.

The determination has been made that there would be no effect on any species of threatened or endangered organism with the exception of the lesser long-nosed bat, on which the project may have an effect, but would not likely adversely affect the bat.

5.6 MIGRATORY BIRD TREATY ACT

See Section 4.2.6.2.4 Cumulative Effects on Wildlife in the Draft EIS.

Analysis has determined that there would be no anticipated effects on migratory birds.

5.7 NATIONAL HISTORIC PRESERVATION ACT, AS AMENDED

See Section 4.2.7 Cultural Resources in the Draft EIS.

The project must comply with this act, the Native American Graves Protection and Repatriation Act, Executive Order 13007, and other laws and regulations. The project will comply with these requirements through a Memorandum of Agreement signed by the agencies, the State Historic Preservation Officer, and the Advisory Council on Historic Preservation.

5.8 RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)

See Sections 4.2.11 and 4.5.8 Hazardous Materials in the Draft EIS.

Cyprus Miami's existing operations have been in compliance with RCRA (40 CFR 260) and the proposed project would also be in compliance through the best management procedures implemented and the reporting requirements of the act.

5.9 NATIONAL FOREST MANAGEMENT ACT

See Section 4.2.9.1 Land Use Plans in the Draft EIS.

The Forest Service has determined the project is in compliance with the Forest Plan of the Tonto National Forest.

5.10 FEDERAL LAND POLICY AND MANAGEMENT ACT

See Section 4.2.9.1 Land Use Plans in the Draft EIS.

The BLM has determined that the project is in compliance with management directives for the area.

5.11 DAM SAFETY REGULATIONS

See Section 2.4.4.2 BL Facility Stormwater Controls in the Draft EIS.

The impoundment structures will require review and approval by the Arizona Department of Water Resources. Review and permit issuance by the ADWR will ensure the impoundments are in compliance with specified requirements.

6.1 SCOPING AND PUBLIC INVOLVEMENT

The Cyprus Miami Leach Facilities Expansion Draft EIS was distributed for public comment on April 9, 1997, and its availability announced in the Federal Register on April 14, 1997. The BLM and Forest Service received written comments and held two public hearings to receive additional comments during the comment period which ended June 10, 1997. The first public hearing was held in Miami, Arizona, on May 14, 1997, and the second in Mesa, Arizona, on May 15, 1997. Approximately 75 people attended the two hearings. Ten people spoke at the hearing in Miami, and seven people spoke at the hearing in Mesa. A total of 48 comment letters was received by both agencies.

As part of the public participation plan, letters soliciting comments were sent to the following list of Native American communities in April 1997. In August 1997, the tribes were again invited to address their concerns before finishing the Final EIS. Tribes who responded with comments are indicated in bold.

Fort McDowell Indian Community Hopi Tribe Salt River Pima-Maricopa Indian Community San Carlos Apache Tribe Tonto Apache Tribe

White Mountain Apache Tribe Yavapai-Apache Nation Yavapai-Prescott Tribe Zuni Pueblo

Additionally, the tribes were invited to participate in the ethnohistoric study conducted as part of the cultural resources consultation with the State Historic Preservation Officer. Six of the tribes responded. Tribal elders and cultural specialists were interviewed, and tribal representatives attended field visits to the project site.

6.2 ISSUES IDENTIFIED IN COMMENTS ON THE DRAFT EIS

Written and oral comments received during the comment period were addressed during the preparation of the Final EIS. There was essentially no public controversy related to this proposal. Since all the comments relating to the Draft EIS were determined to be minor, the BLM and Forest Service issued an abbreviated Final EIS document.

6-1 rod.374\June3, 1998



Approval of the operating plan and authorization to commence work will not be issued until such time as provided for by the appeal procedures identified in Section 8.0 following. In addition, activity under this operating plan cannot commence until the operator is in compliance with all regulations at 43 CFR 3809 (BLM) and 36 CFR 228 (Forest Service). This compliance shall include a bond, as described in the following Section 7.1. Further, all permits and approvals required to meet 43 CFR 3809.2-2 Other Requirements for Environmental Protection (BLM) and 36 CFR 228.8 (Forest Service), must be at the mine site and available for inspection prior to the start of operations. Any proposed changes in the approved operating plan will require additional NEPA review and/or analyses if impacts would be significantly different than those analyzed in the FEIS and reflected in this ROD. Once the operator is in full compliance with the applicable regulations and has incorporated into the operating plan all the provisions of the agency-preferred alternative and all mitigation measures in this decision, a formal letter authorizing the operator to commence operations under the Mining Plan of Operations (BLM) and Plan of Operations (Forest Service) will be sent by the agencies.

If this decision is not appealed, implementation on BLM-administered lands could occur after the close of a 30-day appeal period, or for National Forest System lands, five business days after the close of a 45-day appeal period. If this decision is appealed, then implementation of the project will be subject to appeal procedures as described in Section 8.0.

7.1 BONDING REQUIREMENTS

BLM

Cyprus Miami will be required to cover the full cost of reclamation (100 percent) for lands managed by BLM in accordance with 43 CFR 3809.1-9, or subsequent guidance provided for activities authorized under the approved Mine Plan of Operation.

Forest Service

Cyprus Miami will be required to post a separate bond acceptable to the Forest Service that will cover the full cost of reclamation on National Forest System lands prior to commencing any activities under the approved Plan of Operations. This bonding instrument will be modified as appropriate during the life of the project to ensure that reclamation requirements will be met.



8.1 BUREAU OF LAND MANAGEMENT

The release date of this Record of Decision constitutes public notice of the decision. This decision may be appealed to the Interior Board of Land Appeals (IBLA), Office of the Secretary, in accordance with the regulations contained in 43 CFR Part 4. If an appeal is taken, your notice of appeal must be filed in this office--BLM, Arizona State Office, 222 North Central Avenue, Phoenix, Arizona 85004--within 30 days from the release date which is the publication of the Notice of Availability of the ROD in the *Federal Register*. The appellant has the burden of showing that the decision appealed from is in error.

If you wish to file a petition, pursuant to regulation 43 CFR 4.21, for a stay of the effectiveness of this decision during the time that your appeal is being reviewed by the IBLA, the petition for stay must accompany your notice of appeal. A petition for a stay is required to show sufficient justification based on the standards listed below. Copies of the notice of appeal and petition for a stay must also be submitted to each party named in this decision, the IBLA, and to the appropriate Office of the Solicitor (see 43 CFR 4.413) at the same time the original documents are filed with this office. If you request a stay, you have the burden of proof to demonstrate that a stay should be granted.

The Standards For Obtaining a Stay. Except as otherwise provided by law or other pertinent regulation, a petition for a stay of a decision pending appeal shall show sufficient justification based on the following standards:

- 1) The relative harm to the parties if the stay is granted or denied;
- 2) The likelihood of the appellant's success on the merits;
- 3) The likelihood of immediate and irreparable harm if the stay is not granted; and,
- 4) Whether the public interest favors granting the stay.

8.2 FOREST SERVICE

This decision is subject to appeal in accordance with 36 CFR 215 regulations for those actions on National Forest System lands. Any appeal of this decision must be fully consistent with 36 CFR 215.14 (Content of an Appeal), and must provide sufficient evidence and rationale to show why the Responsible Official's decision should be remanded or reversed. Appeals must be in writing and must be postmarked and sent to the Appeal Deciding Officer within 45 days of the date the notice of decision for this project is published in the *Mesa Tribune*. The Appeals Deciding Officer for this project is:

Regional Forester
USDA Forest Service, Southwestern Region
517 Gold SW
Albuquerque, NM 87102-0084
Attn: Appeals Deciding Officer

This decision is also subject to appeal by the proponent under Forest Service 36 CFR 251 regulations. The proponent may appeal under 251 or 215, but not both. Appeals under 251 must follow the filing procedures in 251.88 and must meet all the requirements in 251.90, including a statement of the facts of the dispute and issues raised by the appeal. The appeal must include specific references to any law, regulation, or policy that the proponent believes has been violated. The appeal must be in writing and must be postmarked and sent to the Regional Forester at the above address within 45 days of the date the notice of decision is published in the *Mesa Tribune*. The proponent also is required to send simultaneously a copy of the appeal to the project Deciding Officer:

Charles R. Bazan Forest Supervisor Tonto National Forest 2324 East McDowell Road Phoenix, AZ 85006

The appeal period for both 215 and 251 appeals is 45 days and begins the day following publication of the legal notice documenting the decision in the *Mesa Tribune*.

9.0 AGENCIES' CONTACTS FOR INFORMATION

BLM Project Manager Ms. Shela McFarlin Bureau of Land Management Arizona State Office, AZ-917 222 North Central Avenue Phoenix, Arizona 85004 (602)417-9568

Forest Service Project Manager Mr. Paul Stewart Tonto National Forest 2324 East McDowell Road Phoenix, AZ 85006 (602)225-5200

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